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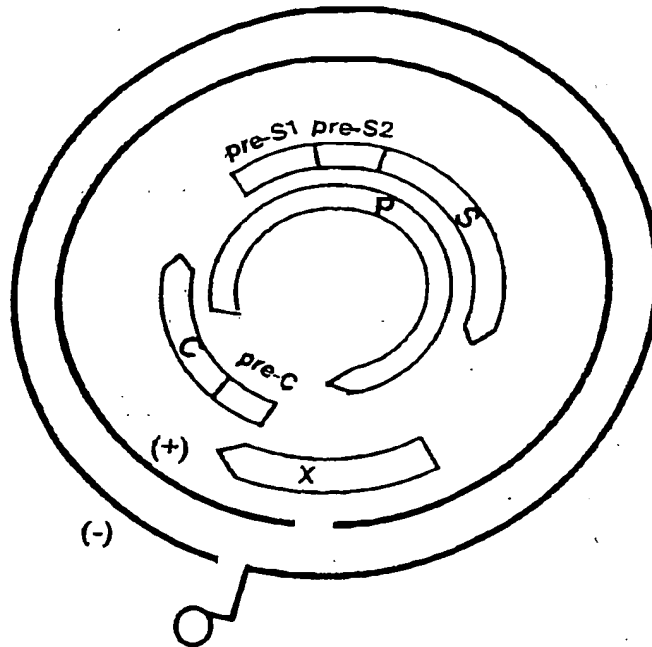


Figure 1

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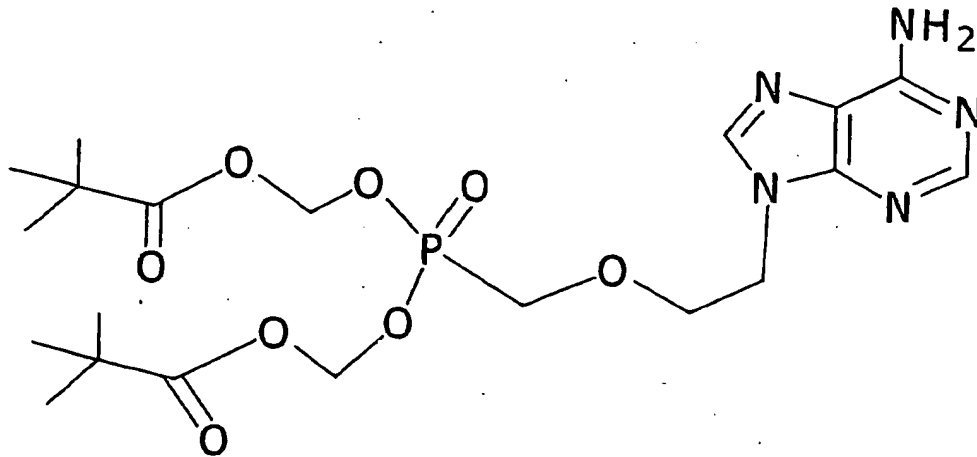


Figure 2

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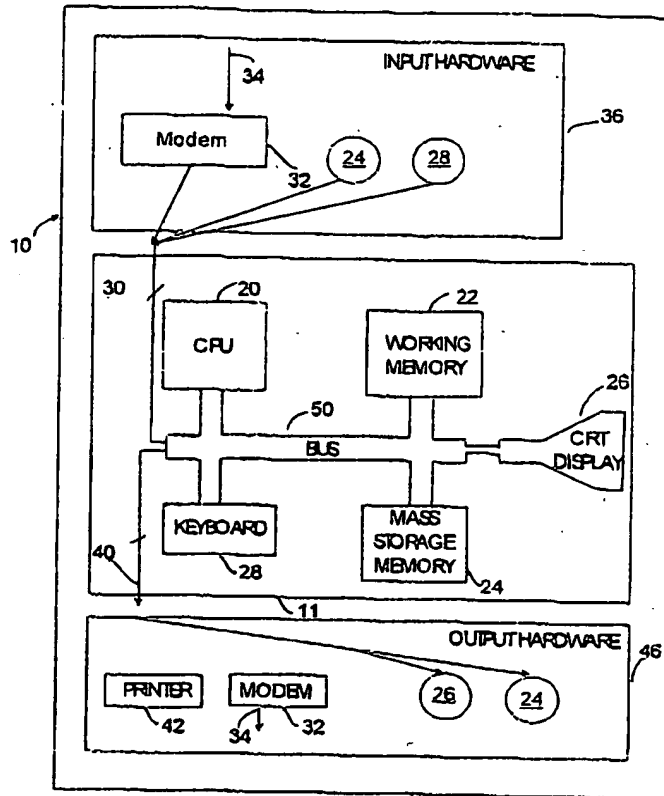


Figure 3A

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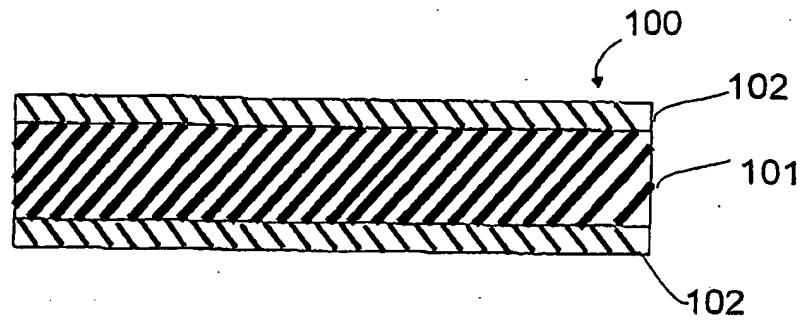


Figure 3B

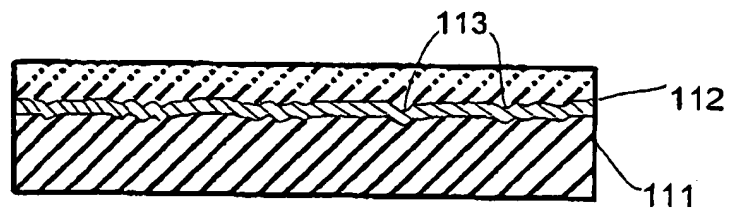


Figure 3C

Figure 4: Patient A nt sequence

```
      10      20      30      40      50
GCTTCCACCAATCGGCAGGCAGGAAGACAGCCTACTCCCATCTCTCCACC

      60      70      80      90     100
TCTAAGAGACAGTCATCCTCAGGCCATGCAGTGGAACTCCAGCACATTCC

     110     120     130     140     150
ACCATGCTCTGCTAGATCCCAGACCTGCTGGTGGCTCCAGTTCCGGAACA

     160     170     180     190     200
GTAAACCCTGTTCCGACTACTGCCTCTCCCATATCGTCAATCTTCTCGAG

     210     220     230     240     250
GACTGGGGACCCTGCGCCGAATATGGAGAGCACCACATCAGGATTCCTAG

     260     270     280     290     300
GACCCCTGCTCGTGTACAGGCGGGGTTTTCTTGTTGACAAGAATCCTC

     310     320     330     340     350
ACAATACCAAAGAGTCTAGACTCGTGGTGGACTTCTCTCAATTTCTAGG

     360     370     380     390     400
GGGAGCACCCACGTGTCCTGGCCAAAATTTGCAGTCCCCAACCTCCAATC

     410     420     430     440     450
ACTCACCAACCTCTTGTCTCCAATTTGTCTGTTATCGCTGGATGTGT

     460     470     480     490     500
CTGCGGCGTTTTATCATCTTCCTCTTCATCCTGCTGCTATGCCTCATCTT

     510     520     530     540     550
CTTGTTGGTTCTTCTGGACTACCAAGGTATGTTGCCCCGTTTGTCTCTAC

     560     570     580     590     600
TTCCAGGAACATCAACTACCAGCACGGGACCATGCAAGACCTGCACGACT

     610     620     630     640     650
CCTGCTCAAGGAACCTCTATGTTCCCTCTTGTTGCTGTACAAAACCTTC

     660     670     680     690     700
GGACGGAAATTGCACTTGTATTCCCATCCCATCATCTTGGGCTTTCGTAA

     710     720     730     740     750
GATTCCTATGGGAGTGGGCCTCAGTCCGTTTCTCCTGGTTCAGTTTACTA

     760     770     780     790     800
GTGCCATTTGTTCACTGGTTTCGTAGGGCTTTCCCCCACTGTTTGGCTTTC

     810     820     830     840     850
```

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AGTTATATGGATGATGTGGTATTGGGGGCCAAGTCTGTACAACATCTTGA  
860 870 880 890 900  
ATCCCTTTATACCGCTATTACCAATTTTCTTTGTCTTTGGGTATACATT  
910 920 930 940 950  
TAAACCCTAATAAAACCAAGCGTTGGGGCTACTCCCTTAAC TTCATGGGA  
960 970 980 990 1000  
TATGTAATTGGAAGTTGGGGTACCTTGCCACAGGAACATATTGTACAAAA  
AATCAAA

Figure 4

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Figure 5: Patient A. HBV Polymerase sequence

```
      10      20      30      40      50
EDWGPCA EYGEH HIRIP RTPAR VTTGG VFLVD KNPHN TKESR LVVDF SQFS

      60      70      80      90     100
RGSTHV SWPKF AVPNL QSLTN LLSNL SWLSL DVSAA FYHLF LHPA AMPH

     110     120     130     140     150
LLVGSS GLPRY VARLS STSRN INYQH GTMQD LHDSC SRNLY VSLLL LYKT

     160     170     180     190     200
FGRKLH LLYSH PII LGFRK IPMGV GLSPF LLVQF TSAIC SVVRR AFPH CLA

     210     220     230     240     250
FSYMDD VVLGA KSVQH LESLY TAITN FLLSL GIHLN PNPNT KRWGY SLNFM

     260     270
GYVIGS WGTLP QEHIV QKIK
```

Figure 5

Figure 6: Patient A HBV HbsAg sequence

```
      10      20      30      40      50
MESTTSGFLGPLLVLQAGEFLLTRILTIPKSLDSWWTSLNFLGGAPTCPG

      60      70      80      90     100
QNLQSPTSNHSPTSCPPICPGYRWMCLRRFIIFLFILLCLIFLLVLLDY

     110     120     130     140     150
QGMLPVCPLLPGTSTTSTGPCKTCTTPAQGTSMFPSCCCTKPSDGNCTCI

     160     170     180     190     200
PIPSSWAFVRFLWEWASVRFSWFSLLVPFVQWFEVGLSPTVWLSVIWMMWY

     210     220
WGPSLYNILNPFIFLLPIFFCLWVYI
```

Figure 6



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Figure 7: Patient B HBV NT sequence

```
      10      20      30      40      50
TCTGTCTCCACCTTTGAGAGACACTCATCCTCAGGCCATGCAGTGGAAC

      60      70      80      90     100
CCACAACCTTCCACCAAACCTCTGCAAGATCCCAGAGTGAGAGGCCTGTAT

     110     120     130     140     150
TTCCCTGCTGGTGGCTCCAGTTCAGGAACAGTAAACCCTGTTCCGACTTC

     160     170     180     190     200
TGTCTCTCACACATCGTCAATCTTCTCGAGGATTGGGGTCCCTGCGCTGA

     210     220     230     240     250
ACATGGAGAACATCACATCAGGATTCCTAGGACCCCTGCTCGTGTTACAG

     260     270     280     290     300
GCGGGGTTTTTCTTGTTGACAAGAATCCTCACAATACCGCAGAGTCTAGA

     310     320     330     340     350
CTCGTGGTGGACTTCTCTCAATTTTCTAGGGGGAACCTACCGTGTGTCTTG

     360     370     380     390     400
GCCAAAATTTCGCAGTCCCCAACCTCCAATCACTCACCAACCTCCTGTCCT

     410     420     430     440     450
CCAACCTGTCCTGGTTATCGCTGGATGTATCTGCGGCGTTTTATCATCTT

     460     470     480     490     500
CCTCTTCATCCTGCTGCTATGCCTCATCTTCTTGTTGGTTCTTCTGGACT

     510     520     530     540     550
ATCAAGGTATGTTGCCCCTTGTCTCTAATTCCAGGATCTTCAACCACC

     560     570     580     590     600
AGCACGGGACCATGCAGAACCTGCACGACTCCTGCTCAAGGAAACTCTAT

     610     620     630     640     650
GTATCCCTCCTGTGCTGTACCAAACCTTCGGACGGAAATTGCACCTGTA

     660     670     680     690     700
TTCCCATCCCATCATCCTGGGCTTTCGGAAAATTCCTATGGGAGTGGGCC

     710     720     730     740     750
TCAGCCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTCAGTGGTT
```

Figure 7

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```
      760      770      780      790      800
CGTAGGGCTTTCCCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGT

      810      820      830      840      850
ATTGGGGGCCAAGTCTGTATCGCATCTTGAGTCCCTTTTTACCGCTGTTA

      860      870      880      890      900
CCAATTTTCTTTTGTCTTTGGGTATACATTTAAACCCTCACAAAACAAA

      910      920      930      940      950
AGATGGGGTCACTCTTTACATTTTCATGGGCTATGTCATTGGATGTTATGG

      960      970      980
GTCATTGCCACAAGATCACATCAGACAGAAAA
```

**Figure 7 continued**

Figure 8: Patient B POLYMERASE sequence

```
      10      20      30      40      50
EDWGPCAEGEHHIRIPRTPARVTGGVFLVDKNPHNTAESRLVVDFSQFS

      60      70      80      90     100
RGN YRVSWPKFAV PNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

     110     120     130     140     150
LLVGSSGLSRYVARLSSNSRIFNHQHGTMQNLHDSCSRKLYVSLLLLYQT

     160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAICSVVRRAFPFCCLA

     210     220     230     240     250
FSYMDDVVLGAKSVSHLES LFTAVTNFLLSLGIHLNPHKTKRWGHS LHF M

     260
GYVIGCYGSLPQDHIRQK
```

Figure 8

Figure 9: Patient B HBsAG sequence

```
      10      20      30      40      50
MENITSGFLGPLLVLQAGFFLLTRILTIPQSLDSWWTSLNFLGGTTVCLG

      60      70      80      90     100
QNSQSPTSNHSPTSCPPTCPGYRWMYLRRFIIFLFILLCLIFLLVLLDY

     110     120     130     140     150
QGMLFVCPILPGSSTTSTGPCRTCTTPAQGNSMYPSCCCTKPSDGNCTCI

     160     170     180     190     200
PIPSSWAFGKFLWEWASARFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWY

     210     220
WGPSLYRILSPFLPLLPIFFCLWVYI
```

Figure 9

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Figure 10: Patient C HBV NT sequence

```
      10      20      30      40      50
CAGCAGCGCCTCCTCCTGCCTCCTCCAATCGGCAGTCAGGAAGACAGCCT

      60      70      80      90     100
ACTCCCATCTCTCCACCTCTAAGAGACAGTCATCCTCAGGCCATGCAGTG

     110     120     130     140     150
GAACTCCAGCACATTCCACCAAGCTCTGCTAGATCCCAGAGTGAGGGGCC

     160     170     180     190     200
TATATTTTCCTGCTGGTGGCTCCAGTTCGGAACAGTAAACCCTGTTCCG

     210     220     230     240     250
ACTACTGCCTCTCCCATATCGTCAATCTTCTCGAGGACTGGGGACCCTGC

     260     270     280     290     300
ACCGAACATGGAGAGCACCACATCAGGATTCCTAGGACCCCTGCTCGCGT

     310     320     330     340     350
TACAGGCGGGGTTTTTCTTGTTGACAAGAATCCTCACATACCACAGAGT

     360     370     380     390     400
CTAGACTCGTGGTGGACTTCTCTCAATTTCTAGGGGGGAACACCCAAGTG

     410     420     430     440     450
TCCTGGCCAAAATTTGCAGTCCCCAACCTCCAATCACTCACCAACCTCTT

     460     470     480     490     500
GTCCTCCAATTTGTCCTGGTTATCGCTGGATGTGTCTGCGGCGTTTTATC

     510     520     530     540     550
ATCTTCCTCTTCATCCTGCTGCTATGCCTCATCTTCTGTGGGGTCTTCT

     560     570     580     590     600
GGACTACCAAGGTATGTTGCCCGTTTGTCTCTACTTCCAGGAACATCAA

     610     620     630     640     650
CTACCAGCACGGGACCATGCAAGACCTGCACGACTCCTGCTCAAGGAACC

     660     670     680     690     700
TCTATGTTCCCTCTTGTTGCTGTACAAACCTTCGGACGGAAATTGCAC
```

Figure 10

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```
      710      720      730      740      750
TTGTATTCCCATCCCATCATCTTGGGCTTTCGCAAGATTCCCTATGGGAGT

      760      770      780      790      800
GGGCCTCAGTCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTTCAG

      810      820      830      840      850
TGGTTCGTAGGGCTTTCCTCCCACTGTTTGGCTTTTAGTTATATGGATGAT

      860      870      880      890      900
GTGGTATTGGGGGCAAGTCTGTACAACAYCTTGAATCCCTTTTACCGC

      910      920      930      940      950
TGTTACCAATTTTCTTTGTCTTTGGGTATACATTTAAACCCTACTAAAA

      960      970      980      990     1000
CCAAACGTTGGGGCTACTCCCTTAACCTTCATGGGATATGTAATTGGAAGT

     1010     1020     1030     1040
TGGGGTACCTTACCACAAGAACATATTGTACACAAAATCAGACAA
```

Figure 10 continued

Figure 11: Patient C Polymerase sequence

```
      10      20      30      40      50
EDWGPCTEHGEHHIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS

      60      70      80      90     100
RGNTQVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

     110     120     130     140     150
LLVGSSGLPRYVARLSSTSRNINYQHGTMQDLHDSCSRNLYVSLLLLYKT

     160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFELLAQFTSAICSVVRRAFPCLA

     210     220     230     240     250
FSYMDDVVLGAKSVQHLESLEFTAVTNFLLSLGIHLNPTKTKRWGYSINFM

     260     270
GYVIGSWGTLPPQEHIVHKIRQ
```

Figure 11

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Figure 12 Patient C HbsAg sequence

```
      10      20      30      40      50
MESTTSGFLGPLLALQAGFFLLTRILTIPQSLDSWWTSLNFLGGTPKCPG

      60      70      80      90     100
QNLQSPTSNHSPTSCPPICPGYRWMCLRRFIIFLFILLCLIFLWGLLDY

      110     120     130     140     150
QGMLPVCPLLPGTSTTSTGPCKTCTTPAQGTSMFPSCCCTKPSDGNCTCI

      160     170     180     190     200
PIPSSWAFARFLWEWASVRFSWLSLLVPFVQWFVGLSPTVWLLVIWMMWY

      210     220
WGPSLYNXLNPFLPLLPIFFCLWVYI
```

Figure 12



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Figure 13; Patient D NT sequence

```

      10      20      30      40      50
CTCCTGCATCTACCAATCGGCAGTCAGGAAGACAGCCTACTCCCATCTCT

      60      70      80      90     100
CCACCTCTAAGAGACAGTCATCCTCAGGCCATGCAGTGGAATCCACAAC

     110     120     130     140     150
TTTCCACCAAGCTCTGCTAGATCCCCGAGTGAGGGGCCTCTATTTTCCTG

     160     170     180     190     200
CTGGTGGCTCCAGTTCGGGACAGTAAACCCTGTTCCGACTACTGCCTCT

     210     220     230     240     250
CCCATATCGTCAATCTTCTCGAGGACTGGGGACCCTGCACTGAACATGGA

     260     270     280     290     300
GAGCACAACATCAGGATTCCTAGGACCCCTGCTCGTGTTACAGGCGGTGT

     310     320     330     340     350
TTTTCTTGTTGACAAGAATCCTCACAATACCACAGAGTCTAGACTCGTGG

     360     370     380     390     400
TGGACTTCTCTCAATTTTCTAGGGGAAGCACCCGCGTGTCCTGGCCAAA

     410     420     430     440     450
TTCGCAGTCCCCAACCTCCAATCACTCACCAACCTCTTGTCCTCCAATTT

     460     470     480     490     500
GTCCTGGCTATCGCTGGATGTGTCTGCGGCGTTTTATCATCTTCTCTTTC

     510     520     530     540     550
ATCCTGCTGCTATGCCTCATCTTCTTGTTGGTTCTTCTGGATTACCAAGG

     560     570     580     590     600
TATGTTGCCCGTTTGTCCTCTACTTCCAGGAACGTCAACTACCAGCACGG

     610     620     630     640     650
GACCATGCAAGACCTGCACGATTCCTGCTCAAGGAACCTCTATGTTTCCC

     660     670     680     690     700
TCATGTTGCTGTACAAAACCTTCGGACGGAACTGCACTTGATTCCCAT

     710     720     730     740     750
CCCATCATCCTGGGCTTTCGCAAGATTCCTATGGGAGTGGGCCTCAGTCC

```

Figure 13

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---

760 770 780 790 800  
GTTTCTCTTGACTCAGTTTACTAGTGCCATTGTTTCAGTGGTTCGTAGGG

810 820 830 840 850  
CTTTCCCCACTGTTTGGCTTTCAGTTATATGGATGATCTGGTATTGGGG

860 870 880 890 900  
GCCAAGTCTGTACAACATCTTGAGTCCCTTTATACCGCTATTACCAATTT

910 920 930 940 950  
TCTTTTGTCTTTGGGTATACATTTAAACCCTAATAAAACCAAGCGATGGG

960 970 980 990 1000  
GTTACTCCCTTAACTTCATGGGATATGTCATTGGAAGTTGGGGGACTTTA

1010 1020  
CCACAGGAACATATTGTGCTC

Figure 13 continued

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Figure 14: patient D HBV POL sequence

```
      10      20      30      40      50
EDWGPCTEHGEHNIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS

      60      70      80      90     100
RGSTRVSWPKFAVFNLQSLTNLLSSNLSWLSLDVSAAFYHLPHPAAMPH

     110     120     130     140     150
LLVGSSGLPRYVARLSSTRNVNYQHGTMQDLHDSCSRNLYVSLMLLYKT

     160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLTQFTSAICSVVRRAFPCLA

     210     220     230     240     250
FSYMDDVVLGAKSVQHLESLYTAITNFLLSLGIHLNPNKTKRWGYSINFM

     260
GYVIGSWGTLTPQEHIVL
```

Figure 14

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Figure 15 Patient D HBsAg sequence

```
      10      20      30      40      50
MESTTSGFLGPLLVLQAVFFLLTRILTIPQSLDSWWTSNLFLGEAPACPG

      60      70      80      90     100
QNSQSPTSNHSPTSCPPICPGYRWMCLRRFIIFFILLCLIFLLVLLDY

     110     120     130     140     150
QGMLPVCPLLPGTSTTSTGPCKTCTIPAQGTSMFPSCCCTKPSDGNCTCI

     160     170     180     190     200
PIPSSWAFARFLWEWASVRFS*LSLLVPFVQWFVGLSPTVWLSVIWMMWY

     210     220
WGPSLYNILSPFIPLLPIFFCLWVYI
```

Figure 15

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Figure 16: Patient E HBV nt sequence

```

      10      20      30      40      50
AGTCATCCTCAGGCCATGCAGTGGAACTCCAGCACATTCCACCAAGCTCT

      60      70      80      90     100
GCTAGATCCCAGAGTGAGGGGCTTACTTTCTGCTGGTGGCTCCAGTT

     110     120     130     140     150
CAGGAACAGTAAACCCTGTTCCGACTACTGCCTCTCCCATATCGTCAATC

     160     170     180     190     200
TTCTCGAGGACTGGGGACCCTGCACCGAATATGGAGAGCACCATCAGG

     210     220     230     240     250
ATTCTAGGACCCCTGCTCGTGTACAGGCGGGGTTTTCTTGTTGACAA

     260     270     280     290     300
GAATCCTCACAAATACCACAGAGTCTAGACTCGTGGTGGACTTCTCTCAAT

     310     320     330     340     350
TTTCTAGGGGGAGCACCCGCGTGTCTTGCCAAAATTTGCAGTCCCCAAC

     360     370     380     390     400
CTCCAATCACTCACTAACCCTCTTGCTCTCCAATTTGCTGTTATCGCT

     410     420     430     440     450
GGATGTGTCTGCGGCGTTTTATCATCTTCTCTCATCCTGCTGCTATGC

     460     470     480     490     500
CTCATCTTCTTGTTGGTTCTTCTGGACTACCAAGGTATGTTGCCCGTTTG

     510     520     530     540     550
TCCTCTACTTCCAGGAACATCAACTACCAGCACGGGACCATGCAAGACCT

     560     570     580     590     600
GCACGACTCCTGCTCAAGGAACCTCTATGTTTCCCTCTTGTGTTGTACA

     610     620     630     640     650
AAACCTTCGGACGGAAATTGCACTTGATTCCCATCCCATCATCTTGGGC

     660     670     680     690     700
TTTCGCAAGATTCTATGGGAGTGGGCCTCAGTCCGTTTCTCATGGCTCA

```

Figure 16

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```
      710      720      730      740      750
GTTTACTAGTGCCATTTGTTTCAGTGGTTCGTAGGGCTTTCCCCCACTGTT

      760      770      780      790      800
TGGTTTTTCAGTTATGTGGATGATGTGGTATTGGGGGCCAAGTCTGCACAA

      810      820      830      840      850
CATCTTGAATCCCTTTTACCCTATTACCAATTTCTTTGTCTTTGGG

      860      870      880      890      900
TATACATTTAAACCMATAAAACCAAACGTTGGGGCTATTCCCTTAACT

      910      920      930      940      950
TTATGGGATATGGAATTGGAAGTTGGGGTCCTGCCCAGGGAAGATGGCAG

GGG
```

Figure 16 continued

Figure 17 Patient E: HBV polymerase

10 20 30 40 50  
SSSGHAVELQHIPPSSARSQSEGPILSCWWLQFRNSKPCSDYCLSHIVNL  
60 70 80 90 100  
LEDWGPCTEYGEHHIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQF  
110 120 130 140 150  
SRGSTRVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMP  
160 170 180 190 200  
HLLVGSSGLPRYVARLSSTSRNINYQHGTMQDLHDSCSRNLYVSLLLLYK  
210 220 230 240 250  
TFGRKLHLYSHPIILGFRKIPMGVGLSPFLMAQFTSAICSVVRRAPPHCL  
260 270 280 290 300  
VFSYVDDVVLGAKSAQHLESLEFTAITNFLSLGIHLNXXNKTkrwgyslne  
MGYGIGSWG

Figure 17

Figure 18: Patient E HBsAg

```
      10      20      30      40      50
QTPISPPLRDSHPQAMQWNSSTFHQALLDPRVRGLYFPAGGSSSGTVNP

      60      70      80      90     100
VPTTASPISSIFSRGTGDPAPNMESTTSGFLGPLLVLQAGFFLLTRLLTIP

      110     120     130     140     150
QSLDSWWTSLNFLGGAPACPGQNLQSPSTSNHSLTSCPPICPGYRWMCLRR

      160     170     180     190     200
FIIFLFIILLCLIFLLVLLDYQGMLPVCPLLPGTSTTSTGPCKTCTTPAQ

      210     220     230     240     250
GTSMFPSCCCTKPSDGNCTCIPIPSSWAFARFLWEWASVRFSWLSLLVFF

      260     270     280     290     300
VQWFVGLSPTVWFVSMWMMWYWGPSLHNILNPFLPLLPIFFCLWVYI*TX

IKPNVGA
```

Figure 18



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Figure 19: Patient F: nt sequence

```

      10      20      30      40      50
CCAATCGGCAGTCAGGAAGACAGCCTACTCCCATCTCTCCACCTCTAAGA

      60      70      80      90     100
GACAGTCATCCTCAGGCCATGCAGTGGAACTCCAGCACATTCCACCAAGC

     110     120     130     140     150
TCTGCTAGATCCCAGAGTGAGGGGCCCTATACTTCTCTGCTGGTGGCTCCA

     160     170     180     190     200
GTTCCGGAACAGTAAACCCTGTTCCGACTACTGCCTCTCCCATATCGTCA

     210     220     230     240     250
ATCTTCTCGAGGACTGGGGACCCTGCACCGAATATGGAGAGCACCACATC

     260     270     280     290     300
AGGATTCCCTAGGACCCCTGCTCGTGTTACAGGCGGGGTTTTTCTTGTTGA

     310     320     330     340     350
CAAGAATCCTCACAAATACCACAGAGTCTAGACTCGTGGTGGACTTCTCTC

     360     370     380     390     400
AATTTTCTAGGGGGAGCACCCACGTGTCTTGCCAAAATTTGCAGTCCCC

     410     420     430     440     450
AACCTCCAATCACTCACCAACCTCTTGTCCTCCAATTTGTCTGGTTATC

     460     470     480     490     500
GCTGGATGTGTCTGCGGCGTTTTATCATCTTCCTCTTCATCCTGCTGCTA

     510     520     530     540     550
TGCCTCATCTTCTTGTTGGTTCTTCTGGACTACCAAGGTATGTTGCCCGT

     560     570     580     590     600
TTGTCCTCTACTTCCAGGAACATCAACTACCAGCACGGGACCATGCAAGA

     610     620     630     640     650
CCTGCACGACTCCTGCTCAAGGAACCTCTATGTTTCCCTCTTGTTGCTGT

```

Figure 19

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55

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```

      660      670      680      690      700
ACAAAACCTTCGGACGGAAATTGCACTTGTATTCCCATCCCATCATCTTG

      710      720      730      740      750
GGCTTTCGCAAGATTCCCTATGGGAGTGGGCCTCAGTCCGTTTCTCCTGGC

      760      770      780      790      800
TCAGTTTACTAGTGCCATTGTTCAGTGGTTCGTAGGGCTTCCCCCACT

      810      820      830      840      850
GTTTGGCTTTCAGTTATATGGATGATGTGGTATTGGGGGCCAAGTCTGTA

      860      870      880      890      900
CAACATCTTGAATCCCTTTTTACCGCTGTTACCAATTTCTTTGTCTTT

      910      920      930      940      950
GGGTATACATTTAAACCCTACTAAACTAAACGTTGGGGCTACTCCCTTA

      960      970      980
ACTTCATGGGATATGTAATTGGAAGTTGGGGTACCTTG

```

Figure 19 continued

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Figure 20 Patient F Pol Amino acid sequence

```
      10      20      30      40      50
EDWGPCTEYGEHHIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS

      60      70      80      90     100
RGSTHVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

     110     120     130     140     150
LLVGSSGLPRYVARLSSTSRNINYQHGTMQDLHDSCSRNLYVSLLLLYKT

     160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAICSVVRRAFPCLLA

     210     220     230     240     250
FSYMDDVVLGAKSVQHLESLEFVAVTNFLLSLGIHLNPTKTKRWGYSLEFM
GYVIGSWG
```

**Figure 20**

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Figure 21 Patient F HBsAg seq

```
      10      20      30      40      50
MESTTSGFLGPLLVLQAGFFLLTRILTIPQSLDSWWTSLNFLGGAPTCPG
      60      70      80      90     100
QNLQSPTSNHSPTSCPPICPGYRWMCLRRFIIFLFILLCLIFLLVLLDY
      110     120     130     140     150
QGMLPVCPLLPGTSTTSTGPCKTCTTPAQGTSMFPSCCCTKPSDGNCTCI
      160     170     180     190     200
PIPSSWAFARFLWEWASVRFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWY
      210     220
WGPSLYNILNPFLPLLPIFFCLWVYI
```

Figure 21

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Figure 22: Patient G ;HBV nt

```

      10      20      30      40      50
TCGCCTCCTGCCTCCACCAATCGCCAGTCAGGAAGGCAACCTACCCCGC

      60      70      80      90     100
TCTCTCCACCTTTGAGAGACACTCATCCTCAGGCCGTGCAGTGGAATCC

      110     120     130     140     150
ACAACCTTCCACCAAACCTCTGCAAGATCCCAGAGTGAGGGGCTGTATCT

      160     170     180     190     200
CCCTGCTGGTGGCTCCAGTTCAGGAACAGCAAACCTGTTCGACTACTG

      210     220     230     240     250
CCTCTCGCTTATCGTCAATCTTCTCGAGGATTGGGGACCCTGCGCTGAAC

      260     270     280     290     300
ATGGAGAACATCACATCAGGACTCCTAGGACCCCTTCTCGTGTTACAGGC

      310     320     330     340     350
GGGGTTTTTCTTGTGACAAGAATCCTCACAATACCGCAGAGTCTAGACT

      360     370     380     390     400
CGTGGTGGACTTCTCTCAGTTTCTAGGGGGAACCTACCSTGTGTCTTGGC

      410     420     430     440     450
CAAAATTCGCGGTCCCAACCTCCAATCACTCACCAACCTCCTGTCCTCC

      460     470     480     490     500
GACTTGCTCCTGGTTATCGCTGGATGTATCTGCGGCGTTTTATCATATTCC

      510     520     530     540     550
TCTTCATCCTGCTGCTATGCCTCATCTTCTTGTGTTCTTCTGGACTAT

      560     570     580     590     600
CAAGGTATGTTGCCCGTTTGTCTCTAATTCCAGGATCCTCAACCACCAG

      610     620     630     640     650
CACGGGAACATGCCGAACCTGCACGACTCCTGCTCAAGGAACCTCTATGT

      660     670     680     690     700
ATCCCTCCTGTTGCTGTACCAAACCTTCGGACGGAAATTGCACCTGTATT

```

Figure 22

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```

      710      720      730      740      750
CCCATCCCATCATCTTGGGCTTTCGGAATTCCTATGGGAGTGGGCCTC

      760      770      780      790      800
AGCCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTTCAGTGGTTCG

      810      820      830      840      850
TAGGGCTTTCCTCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGTAT

      860      870      880      890      900
TGGGGGCCAAGTCTGTACAGCATCTTGAGTCCCTTTTACCGCTGTTACC

      910      920      930      940      950
AATTTTCTTTTGTCTTTGGGTATACATTTAACCGCTAACAAACAAAGAG

      960      970      980      990     1000
ATGGGGTTACTCTCTAAATTTTATGGGCTATGTCATTGGAAGTTATGGGT

     1010     1020     1030     1040
CCTTGCCACAAGAACACATTATACTAAAAATCAAAGATTGTTT

```

Figure 22 continued

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Figure 23 Patient G HBV POL

```
      10      20      30      40      50
EDWGPCAHEGHEHIRTPTPTPSRVTTGGVFLVDKNPHNTAESRLVVDFSQFS

      60      70      80      90     100
RGNYRVSWPKFAVPNLQSLTNLLSSDLSWLSLDVSAAFYHIPLHPAAMPH

     110     120     130     140     150
LLVGSSGLSRYVARLSSNSRILNHQHGNMFPNLHDSCSRNLYVSLLLLYQT

     160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAICSVVRRAPPHCLA

     210     220     230     240     250
FSYMODVVLGAKSVQHLESLEFTAVTNFLLSLGIHLTPNKTKRWGYSLNFM
GYVIGSYG
```

Figure 23

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---

Figure 24: Patient G HbsAg

10 20 30 40 50  
MENITSGLLGPLLVLQAGFFLLTRILTIPQSLDSWWTSLSFLLGGTTVCLG  
60 70 80 90 100  
QNSRSPTSNHSPTSCPPTCPGYRWMYLRRFIIFLFIILLCLIFLLVLLDY  
110 120 130 140 150  
QGMLPVCPLIPGSSTTSTGTCRTCTTPAQGTSMPSCCCTKPSDGNCTCI  
160 170 180 190 200  
PIPSSWAFGKFLWEWASARFSWLSLLVPFVQWFGVLSPTVWLSVIWMMWY  
210 220  
WGPSLYSILSPFLPLLPIFFCLWVYI

Figure 24



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Figure 25 Patient H nt seq

```

      10      20      30      40      50
CGCCTCCTGCCTCCACCAATCGCCAGTCAGGAAGGCAGCCGACCCCACTG

      60      70      80      90     100
TCTCCACCTTTGAGAGACACTCATCCTCAGGCCGTGCAGTGGAAGTCCAC

     110     120     130     140     150
AACCTTCCACCAAACCTCTGCAAGATCCCAGAGTGAGAGGCCTGTATTTCC

     160     170     180     190     200
CTGCTGGTGGCTCCAGTTCAGGAACAGTAAACCCTGTTCCGACCACTGCC

     210     220     230     240     250
TCTCCCTTATCGTCAATCTTCTCGAGGATTGGGGACCCTGCGCTGAACAT

     260     270     280     290     300
GGAGAACATCACATCAGGATTCCTAGGACCCCTTCTCGTGTTACAGGCGG

     310     320     330     340     350
GGTTTTTCTTGTTGACAAGAATCCTCACAATACCGCAGAGTCTAGACTCG

     360     370     380     390     400
TGGTGGACTTCTCTCAGTTTTCTAGGGGAAACCACCGTGTGTCTTGGCCA

     410     420     430     440     450
AAATTCGCAGTCCCCAACCTCCAATCACTCACCAACCTCCTGTCCTCCAA

     460     470     480     490     500
CTTGTCCTGGTTATCGCTGGATGTGTCTGCGGCGTTTTATCATATTCCTC

     510     520     530     540     550
TTCATCCTGCTGCTATGCCTCATCTTCTTGTGGTTCTTCTGGACTATCA

     560     570     580     590     600
AGGTATGTTGCCCCTTGTCTCTAATTCAGGATCCTCAACCACCAGCA

     610     620     630     640     650
CGGGACCATGCCGAACCTGCACGACTCCTGCTCAAGGAACCTCTATGTAT

     660     670     680     690     700
CCCTCCTGTTGCTGTACCAAACCTTCGGACGGAAATTGCACCTGTATTCC

```

Figure 25

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710 720 730 740 750  
CATCCCATCATCTTGGGCTTTCGCAAAATTCCTATGGGAGTGGGGCTCAG

760 770 780 790 800  
CCCGTTTCTCATGGCTCAGTTTACTAGTGCCATTGTTCAGTGGTTCGTA

810 820 830 840 850  
GGGCTTTCCTCCCACTGTTTGGCTTTCAGTTATGTGGATGATGTGGTATTG

860 870 880 890 900  
GGGGCCAAGTCTGTATCGCATCTTGAGTCCCTTTTACCGCTGTTACCAA

910 920 930 940 950  
TTTTCTTTTGTCTTTGGGTATACATTTAAACCCTAACAAAACGAAAAGAT

960 970 980 990 1000  
GGGGTTACTCTTTAAATTTTATGGGGTATGTTATTGGATGTTATGGGTCC

1010 1020  
TTGCCACAAGAACACATCGTACAAAA

Figure 25 continued

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Figure 26: Patient H HBV pol

```

      10      20      30      40      50
EDWGPCAENGEGHHIRIPRTPSRVTTGGVFLVDKNPHNTAESRLVVDFSQFS

      60      70      80      90     100
RGNHRVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHIPLHPAAMPH

      110     120     130     140     150
LLVGSSGLSRYVARLSSNSRILNHQHGTMPLNLDSCSRNLYVSLLLLYQT

      160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLMAQFTSAICSVVRRAFPCLLA

      210     220     230     240     250
FSYVDDVVLGAKSVSHLESLEFVAVTNFLLSLGIHLNPNKTKRWGYSLNEM

      260
GYVIGCYGSLPQEH
```

Figure 26

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Figure 27: Patient H HBsAg

10 20 30 40 50  
MENITSGFLGPLLVLQAGFFLLTRILTIPQSLDSWWTSLSLGETTVCLG  
60 70 80 90 100  
QNSQSPSTSNHSPTSCPPTCPGYRWMCLRRFIIFLFIILLCLIFLLVLLDY  
110 120 130 140 150  
QGMLPVCPLIPGSSTTSTGPCRTCTTPAQGTSMPSCCCTKPSDGNCTCI  
160 170 180 190 200  
PIPSSWAFAKFLWEWGSARFSWLSLLVPFVQWVGLSPTVWLSVMWMMWY  
210 220  
WGPSLYRILSPFLPLLPIFFCLWVYI

Figure 27

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Figure 28 Patient I HBV nt seq

```
      10      20      30      40      50
CAACTTGTCTGCTTATCGCTGGATGTGTCTGCGGCGTTTATCATATTC

      60      70      80      90     100
CTCTTCATCCTGCTGCTATGCCTCATCTTCTTGTTGGTTCTTCTGGACTA

     110     120     130     140     150
TCGAGGTATGTTGCCCCGTTTGTCTCTACTTCCAGGATCTTCAACCACCA

     160     170     180     190     200
GCACGGGTCCATGCAGAACCTGCACGACTCCTGCTCAAGGAACCTCTATG

     210     220     230     240     250
TATCCCTCATGTTGCTGTACCAAACCTTCGGACGGAAATTGCACCTGTAT

     260     270     280     290     300
TCCCATCCCATCATCCTGGGCTTTCGGAAAATTCCTATGGGAGTGGGCCT

     310     320     330     340     350
CAGCCCGTTTCTCATGGCTCAGTTTACTAGTGCCATTTGTTCACTGGTTC

     360     370     380     390     400
GTAGGGCTTTCCTCCCATTTGTTGGCTTTCAGTTATGTGGATGATGTGGTA

     410     420     430     440     450
TTGGGGGCCAAGTCTGTATCGCATCTTGAGTCCCTTTTACCGCTGTAC

     460     470     480     490     500
CAATTTTCTTTTGTCTCTGGGTATACATTTAAACCCTCACAAAACAAAAA

     510     520     530     540     550
GATGGGGTTACTCTTTACATTTTCATGGGCTATGTCATCGGATGTTATGGG

     560
TCTTTGCCAC
```

Figure 28

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Figure 29 Patient I HBV pol

```
      10      20      30      40      50
NLSWLSLDVSAAFYHIPLHPAAMPHELLVGSSGLSRYVARLSSTSRIFNHQ
      60      70      80      90     100
HGSMQNLHDSCSRNLYVSLMLLYQTFGRKLHLYSHPIILGFRKIPMGVGL
     110     120     130     140     150
SPFLMAQFTSAICSVVRRAPHPCLAFSYVDDVVLGAKSVSHLESLEFVAVT
     160     170     180
NFLLSLGIHLNPHKTKRWGYSLHFMGYVIGCYGSLP
```

Figure 29

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Figure 30 Patient I: HBsAg

10 20 30 40 50  
TCPGYRWMCLRRFIIFLFILLCLIFLLVLLDYRGMLPVCPLLPGSSTTS  
60 70 80 90 100  
TGPCRTCTTPAQGTSMYPSCCCTKPSDGNCTCIPSSWAFGKFLWEWAS  
110 120 130 140 150  
ARFSWLSLLVPFVQWFVGLSPIVWLSVMWMMWYGPSLYRILSPFLPLLP  
160 170 180  
IFFCLWVYI\*

Figure 30

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Figure 31 Patient J HBV nt seq

```

      10      20      30      40      50
CGCCTCCTCCTGCCTCCACCATCGGCAGTCAGGAAGAAAGCCTACTCCCA

      60      70      80      90     100
TCTCTCCACCTCTAAGAGACAGTCATCCTCAGGCCATGCAGTGGAACTCC

     110     120     130     140     150
AGCACATTCCACCAAGCTCTGCTAGATCCCARAGTGAGRGGCCTATACTT

     160     170     180     190     200
TCCTGCTGGTGGCTCCAGTTCCGGAACAGTAAACCCTGTTCCGACTACTG

     210     220     230     240     250
CCTCTCCCATATCGTCAATCTTCTCGAGGACTGGGGACCCTGCACCGAAT

     260     270     280     290     300
ATGGAGAGCACAACATCAGGATTCCTAGGACCCCTGCTCGTGTACAGGC

     310     320     330     340     350
GGGGTTTTTCTTGTTGACAAGAATCCTCACAATACCACAGAGTCTAGACT

     360     370     380     390     400
CGTGGTGGACTTCTCTCAATTTTCTAGGGGGAGCACCCACGTGTCCTGGC

     410     420     430     440     450
CAAAATTTGCAGTCCCCAACCTCCAATCACTACCAACCTCTTGTCCTCC

     460     470     480     490     500
AATTTGTCCTGGTTATCGCTGGATGTGTCTGCGGCGTTTTATCATCTTCC

     510     520     530     540     550
TCTTCATCCTGCTGCTATGCCTCATCTTCTTGKGGTTCTTCTGGACTAC

     560     570     580     590     600
CAAGGTATGTTGCCCGTTTGTCTCTACTTCCAGGAACATCAACTACCAG

     610     620     630     640     650
CACGGGACCATGCAAGACCTGCACGATTCTTGCTCAAGGAACCTCTATGT

     660     670     680     690     700
TTCCCTCTTGTTGCTGTACAAAACCTTCGGACGGAAATTGCACTTGTATT
```

Figure 31



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710 720 730 740 750  
CCCATCCCATCATCTTGGGCTTTCGCAAGATTCCTATGGGAGTGGGCCTC  
760 770 780 790 800  
AGTCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTTCAGTGGTTCG  
810 820 830 840 850  
TAGGGCTTTCCCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGTAT  
860 870 880 890 900  
TGGGGGCCAAGTCTGTACAACATCTTGAATCCCTTTTACCGCTGTTACC  
910 920 930 940 950  
AATTTTCTTTTGTCTTTGGGTATACATTTAAACCCTACTAAACTAAACG  
960 970 980 990 1000  
TTGGGGCTACTCCCTTAACTTCATGGGATATGTAATTGGAAGTTGGGGTA  
1010 1020  
CCTTACCACAGGAACATATTGTACACAAA

Figure 31 continued

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Figure 32 Patient J HBV pol

```

      10      20      30      40      50
EDWGPCTEYGEHNIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS

      60      70      80      90     100
RGSTHVSWPKEAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

      110     120     130     140     150
LLVGSSGLPRYVARLSSTSRNINYQHGTMQDLHDCSRNLYVSLLLLYKT

      160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAICSVVRRAFPCLLA

      210     220     230     240     250
FSYMDDVVLGAHSVQHLESLFTAVTNFLLSLGIHLNPTKTKRWGYSLNFM

      260
GYVIGSWGTLPEEHIVHK
```

Figure 32

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Figure 33. Patient J HBsAg

```
      10      20      30      40      50
MESTTSGFLGPLLVLQAGFFLLTRILTIPQSLDSWWTSLNFLGGAPTCPG

      60      70      80      90     100
QNLQSPTSNHSPTSCPPICPGYRWMCLRRFIIFFILLCLIFLXVLLDY

      110     120     130     140     150
QGMLPVCPLLPGTSTTSTGPCKTCTIPAQGTSMFFSCCCTKPSDGNCTCI

      160     170     180     190     200
PIPSSWAFARFLWEWASVRFSWLSLLVPFVQWFGLSPTVWLSVIWMMWY

      210     220
WGPSLYNILNPFLPLLPIFFCLWVYI
```

Figure 33

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Figure 34 Patient K HBV nt

```
      10      20      30      40      50
CTCCTCCTGCCTCCACCAATCGGCAGTCAGGAAGACAGCCTACACCCATC

      60      70      80      90     100
TCTCCACCTCTAAGAGACAGTCATCCTCAGGCCATGCAGTGGAACTCCAG

     110     120     130     140     150
CACATTCACCAAGCTCTGCTAGATCCCAGAGTGAGGGGCCTATACTTTC

     160     170     180     190     200
CTGCTGGTGGCTCCAGTTCAGGAACAGTAAACCCTGTTCCGACTACTGCC

     210     220     230     240     250
TCTCCCATATCGTCAATCTTCTCGAGGACTGGGGACCCTGCACCGAATAT

     260     270     280     290     300
GGAGAGACCCACATCAGGATTCTTAGGACCCCTGCTCGTGTTACAGGCGG

     310     320     330     340     350
GGTTTTTCTTGTGACAAGAATCCTCACAATACCACAGAGTCTAGACTCG

     360     370     380     390     400
TGGTGGACTTCTCTCAATTTTCTAGGGGGAGCACCCACGTGTCCTGGCCA

     410     420     430     440     450
AAATTTGCAGTCCCCAACCTCCAATCACTCACCAACCTCTTGTCTCTCAA

     460     470     480     490     500
TTTGTCTGTTATCGCTGGATGTGTCTGCGGCGTTTATCATCTTCTCTC

     510     520     530     540     550
TTCATCTGCTGCTATGCCTCATCTTCTTGTGTTCTTCTGGACTACCA

     560     570     580     590     600
AGGTATGTTGCCCCTTGTCTCTACTTCCAGGAACATCAACTACCAGCA

     610     620     630     640     650
CGGGACCATGCAAGACCTGCACGATTCTGCTCAAGGAACCTCTATGTTT

     660     670     680     690     700
CCCTCTGTTGCTGTACAAAACCTTCGGACGGAAATTGCACTTGTATTCC
```

Figure 34

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```
      710      720      730      740      750
CATCCCATCATCTTGGGCTTTCGCAAGATTCTATGGGAGTGGGCCTCAG

      760      770      780      790      800
TCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTTCAGTGGTTCGTA

      810      820      830      840      850
GGGCTTTCCTCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGTATTG

      860      870      880      890      900
GGGGCCAAGTCTGTACAACATCTTGAATCCCTTTTACCGCTGTTACCAA

      910      920      930      940      950
TTTTCTTTTGTCTTTGGGTATACATTTAAACCCTRCTAAAACCAAACGTT

      960      970      980      990     1000
GGGGTTACTCCCTTAACTTCATGGGATATGTAATTGGAAGTTGGGGTACC

    1010     1020     1030
TTACCACAGGAACATATTGTACACAAAATCAAACA
```

Figure 34 continued

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Figure 35 Patient K HBV pol

```

      10      20      30      40      50
SSCLHQSAVRKTAYTHLSTSKRQSSSGHAVELQHIPPSSARSQSEGPILS
      60      70      80      90     100
CWWLQFRN$KPCSDYCLSHIVNLLEDWGPCTEYGEHHIRIPRTPARVTGG
     110     120     130     140     150
VFLVDKNPHNTTESRLVVDFSQFSRGSTHVSWPKFAVPNLQSLTNLLSSN
     160     170     180     190     200
LSWLSLDVSAAFYHLPLHPAAMPHLLVGSSGLPRYVARLSSTSRNINYQH
     210     220     230     240     250
GTMQDLHDSCSRNLYVSLLLLYKTFGRKLHLYSHPIILGFRKIPMGVGLS
     260     270     280     290     300
PFLLAQFTSAICSVVRRAFPHCLAFSYMDDVVLGAKSVQHLESLFTAVTN
     310     320     330     340
FLLSLGIHLNPXXKTKRWGYSLNFMGYVIGSWGTLPQEHIVHKIK

```

Figure 35

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Figure 36 Patient K HbsAg

10 20 30 40 50  
PPASTNRQSGRQPTPIISPPLRDSHPQAMQWNSSTFHQALLDPRVRGLYFP  
60 70 80 90 100  
AGGSSSGTVNPVPTTASPISSIFSRTGDPAPNMESTTSGFLGPLLVLAG  
110 120 130 140 150  
FFLLTRILTIPQSLDSWWTSLNFLGGAPTCPGQNLQSPTSNHSPTSCPPI  
160 170 180 190 200  
CPGYRWMCLRRFIIIFLFILLCLIFLLVLLDYQGMLPVCPLLPGTSTTST  
210 220 230 240 250  
GPCKTCTIPAQGTSMFPSCCCTKPSDGNCTCIPIPSSWAFARFLWEWASV  
260 270 280 290 300  
RFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWYWGPSLYNINPFLPLLPI  
310 320 330 340  
FFCLWVYI\*TLLKPNVGVTPLTSWDM\*LEVGVFPYHRNILYTKSN

Figure 36

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Figure 37 Patient L HBV nt

```

      10      20      30      40      50
CAGTCCGGAAGGCAGCCTACTCCCTTATCTCCACCTCTAAGGGACACTCA

      60      70      80      90     100
TCCTCAGGCCATGCAGTGGAACCTCCACCACTTTCCATCAAACCTCTTCAAG

     110     120     130     140     150
ATCCCAGAGTCAGGGCTCTGTACTTTCCTGCTGGTGGCTCCAGTTCAGGA

     160     170     180     190     200
ACAGTGAGCCCTGCTCAGAATACTGCCTCTGCCATATCGTCAACCTTCTC

     210     220     230     240     250
GAAGACTGGGGACCCTGTACCGAACATGGAGAACATCGCATCAGGACTCC

     260     270     280     290     300
TAGGACCCCTGCTCGCGTTACAGGCGGGGTTTTTCTCGTTGACAAAAATC

     310     320     330     340     350
CTCACAATACCACAGAGTCTAGACTCGTGGTGGACTTCTCTCAATTTTCT

     360     370     380     390     400
AGGGGGAACACCCGTGTGTCTTGGCCAAATTCGCAGTCCCAAATCTCCA

     410     420     430     440     450
GTCACTCACCAACTTGTGTCTCCTCCAATTTGTCTGGTTATCGCTGGATG

     460     470     480     490     500
TGTCTGCGGCGTTTTATCATCTTCTCTGCATCTGCTGCTATGCCTCAT

     510     520     530     540     550
CTTCTTGTGGTTCTTCTGGACTATCAAGGTATGTTGCCCGTTTGTCTCTC

     560     570     580     590     600
TAATTCCAGGATCATCAACCACCAGCACCGGACCATGCAGAACCTGCACG

     610     620     630     640     650
ACTCCTGCTCAAGGAACCTCTATGTTTCCCTCATGTTGCTGTACAAAACC

```

Figure 37



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660 670 680 690 700  
TACGGACGGAACCTGCACCTGTATTCCCATCCCATCATCTTGGGCTTTTCG  
710 720 730 740 750  
CAAAATACCTATGGGAGTGGGCCTCAGTCCGTTTCTCTTGGCTCAGTTTA  
760 770 780 790 800  
CTAGTGCCGTTTGTTCAGTGGTTCGTAGGGCTTTCCCCACTGTCTGGCT  
810 820 830 840 850  
TTCAGTTATATGGATGATGTGGTATTGGGGGCCAAGTCTGTACAACATCT  
860 870 880 890 900  
TGAGTCCCTTTATGCCGCTGTTACCAATTTTCTTTTGTCTTTGGGTATAC  
910 920 930 940 950  
ATTTAAACCCTCACAAAACAAAAGATGGGGATATTCCCTTCAATTCATG  
960 970 980  
GGATATGTAATTGGGGGTGGGGCTCCTTG

Figure 37 continued

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Figure 38. Patient L Pol

10 20 30 40 50  
EDWGPCTEHGEHRIRTPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS  
60 70 80 90 100  
RGNTRVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH  
110 120 130 140 150  
LLVGSSGLSRYVARLSSNSRIINHQRRTMQNLHDSCSRNLYVSLMLLYKT  
160 170 180 190 200  
YGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAVCSVVRRAFFHCLA  
210 220 230 240 250  
FSYMDDVVLGAKSVQHLESLYAAVTNELLSLGIHLNPHKTKRWGYSLOFM  
GYVIGGNG

Figure 38

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Figure 39 Patient L HBsAg

```
      10      20      30      40      50
MENIASGLLGPLLALQAGFFSLTKILTIPQSLDSWWTSLNFLGGTPVCLG

      60      70      80      90     100
QNSQSQISSHSPTCCPPICPGYRWMCLRRFIIFLCILLCLIFLLVLLDY

      110     120     130     140     150
QGMLPVCPLIPGSSTTSTGPCSTCTTPAQGTSMFPSCCCTKPTDGNCTCI

      160     170     180     190     200
PIPSSWAFAYLWEWASVRFWSLSLLVPFVQWFVGLSPTVWLSVIWMMWY

      210     220
WGPSLYNILSPFMPLLPIFFCLWVYI
```

Figure 39

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```
      10      20      30      40      50
CCTGCTGGTGGCTCCAGTTCAGGAACAGTAAACCCTGTTCCGACTACTGC

      60      70      80      90     100
CTCTCCCTTATCGTCAATCTTCTCGAGGATTGGGGACCCTGCGCTGAACA

     110     120     130     140     150
TGGAGAACATCACATCAGGATTCCTAGGACCCCTTCTCGTGTTACAGGCG

     160     170     180     190     200
GGGTTTTTCTTGTTGACAAGAATCCTCACAATACCGCAGAGTCTAGACTC

     210     220     230     240     250
GTGGTGGACTTCTCTCAATTTTCGAGGGGGAACACCGTGTGCTTGGCC

     260     270     280     290     300
AAAATTGCGAGTCCCAACCTCCAATCACTCACCAACCTCCTGTCTCTCCA

     310     320     330     340     350
ACTTGTCCTGGTTATCGCTGGATGTGTCTGCGGCGTTTATCATMTTCCT

     360     370     380     390     400
CTTCATCCTGCTGCTATGCCTCATCTTCTTGTTGGTTCTTCTGGACTATC

     410     420     430     440     450
RAGGTATGTTGCCCGTTTGTCCTCTAATTCCAGGATCCTCAWCCACCAGC

     460     470     480     490     500
ACGGGACCATGCCGAACCTGCATGACTACTGCTCAAGGAACCTCTATGTA

     510     520     530     540     550
TCCCTCCTGTTGCTGTACCAAACCTACGGACGGAAATTGCACCTGTATTTC

     560     570     580     590     600
CCATCCCATCATCCTGGGCTTTTCGGAAAATTCCCTATGGGAGTGGGCCTCA

     610     620     630     640     650
GCCCCTTCTCCTGGCTCAGTTTACTAGTGCCATTGTTTCAGTGGTTCGT

     660     670     680     690     700
AGGGCTTTCCCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGTATT

     710     720     730     740     750
GGGGGCCAAGTCTGTAYMGCATCTTGAGTCCCTTTTACCGCTGTTACCA

     760     770     780     790     800
ATTTTCTTTTGTCTTTGGGTATACATTTAAACCCTAACAAAACAAAGAGA

     810     820     830     840     850
TGGGGTTACTCTCTGAATTTTATGGGTTATGTCATTGGAAGTTATGGGTC

     860     870     880     890     900
CTTGCCACAAGAACACATCATACAAAAAATCAAAGAATGTTTTAGAAAAC
```

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Figure 40

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10 20 30 40 50  
CWWLQFRNSKPCSDYCLSLIVNLLLEDWGPCAENGHEHRIIPRTPSRVTTGG  
60 70 80 90 100  
VFLVDKNPHNTAESRLVVDFSQFSRGNYRVSWPKFAVBNLQSLTNLLSSN  
110 120 130 140 150  
LSWLSLDVSAAFYHXPLHPAAMPHELLVGSSGLSRYVARLSSNSRILXHQH  
160 170 180 190 200  
GTMPNLHDYCSRNLVVSLLLLYQTYGRKLHLYSHPIILGFRKIPMGVGLS  
210 220 230 240 250  
PFLLAQFTSAICSVVRRAPPHCLAFSYMDDVVLGAKSVXHLSESLFTAVTN  
260 270 280 290  
FLLSLGIHLNPNKTKRWGYSLNFMGYVIGSYGSLPQEHIIQKIKECFRK

Figure 41

10 20 30 40 50  
FAGSSSGTVNPVPTTASPLSSIFSRIGDPALNMENITSGFLGPLLVLQA  
60 70 80 90 100  
GEFLLTRILTIPQSLDSWWTSLNFRGGTTVCLGQNSQSPTSNNHSPTSCPP  
110 120 130 140 150  
TCPGYRWMCLRRFIIIFLFIILLCLIFLLVLLDYXGMLPVCPLIPGSSXTS  
160 170 180 190 200  
TGPCRTCMTTAQGTSMYPSCCCTKPTDGNCTCIPIPSSWAFGKFLWEWAS  
210 220 230 240 250  
ARFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWYWGPSLYXILSPFLPLLP  
260  
IFFCLWVYI\*

Figure 42

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      10      20      30      40      50
CTTTCACCAAACCTCTGCAAGATCCCCCTGCTGGTGGCTCCAGTTCAGGAA

      60      70      80      90     100
CAGTAAACCCCTGTTCCGACTACTGCCTCTCCCTTATCGTCAATCTTCTCG

     110     120     130     140     150
AGGATTGGGGACCCTGCGCGGAACATGGAGAACATCACATCAGGATTCCCT

     160     170     180     190     200
AGGACCCCTTCTCGTGTTACAGGCGGGGTTTTCTTGTTGACAAGAATCC

     210     220     230     240     250
TCACAATACCGCAGAGTCTAGACTCGTGGTGGACTTCTCTCAATTTTCTA

     260     270     280     290     300
GGGGGAACCTACCGTGTGTCTTGGCCAAAATTGCGAGTCCCCAACCTCCAA

     310     320     330     340     350
TCACTCACCAACCTCCTGTCTCCTCAACTGTCTGTTATCGCTGGATGT

     360     370     380     390     400
GTCTGCGGCGTTTTATCATCTTCCTCTTCATCCTGCTGCTATGCCTCATC

     410     420     430     440     450
TTCTTGTTGGTTCTTCTGGACTATCRAGGTATGTTGCCCGTTTGCTCTCT

     460     470     480     490     500
AATTCAGGATCCTCAACCACCAGCACGGGACCATGCCGAACCTGCATGA

     510     520     530     540     550
CTACTGCTCAAGGAACCTCTATGTATCCCTCCTGTTGCTGTACCAAACCT

     560     570     580     590     600
ACGGACGGAAATTGCACCTGTATTCCCATCCCATCATCCTGGGCTTTCGG

     610     620     630     640     650
AAAATTCCTATGGGAGTGGGCCTCAGCCCGTTTCTCCTGGCTCAGTTTAC

     660     670     680     690     700
TAGTGCCATTTGTTCAAGTGGTTCGTAGGGCTTCCCCCACTGTTTGGCTT

     710     720     730     740     750
TCAGTTATATGGATGATGTGGTATTGGGGGCCAAGTCTGYACAGCATCTT

     760     770     780     790     800
GAGTCCCTTTTTACCGCGGTGACCAATTTCTTTTGTCTTTGGGTATACA

     810     820     830     840     850
TTTAAACCCTAACAACAAAGAGATGGGGTTACTCTCTGAATTTTATGG

     860     870     880     890     900
GTTATGTCATTGGAAGTTATGGGTCTTGCCACAAGAACACATCATACAA

     910
AAAATCAAAGAA

```

Figure 43

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10 20 30 40 50  
LSPNSARSPCWQLQFRNSKPCSDYCLSLIVNLLLEDWGPCAEGEHHRIP  
60 70 80 90 100  
RTPSRVTGGVFLVDKNPHNTAESRLVVDIFSQFSRGNRVSWPKFAVENLQ  
110 120 130 140 150  
SLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPHELLVGSSGLSRYVARLSS  
160 170 180 190 200  
NSRILNHQHGTMPLNLDYCSRNLVSLLLLYQTYGRKLHLYSHPIILGFR  
210 220 230 240 250  
KIPMGVGLSPFLLAQFTSAICSVVRRAPPHCLAFSYMDDVVLGAKSXQHL  
260 270 280 290 300  
ESLEFTAVTNFLLSLGIHLNPNKTKRWGYSLNFMGYVIGSYGSLPQEHIIQ  
KIKE

**Figure 44**

10 20 30 40 50  
FHQTLQDPPAGGSSSGTVNEVPTTASPLSSIFSRIQDPARNMENITSGFL  
60 70 80 90 100  
GPLLVLQAGEFLLTRILTIQSLDSWWTSLNFLGGTTVCLGQNSQSPTSN  
110 120 130 140 150  
HSPTSCPPTCPGYRWMCLRRFIIFLFILLCLIFLLVLLDYXGMLPVCPL  
160 170 180 190 200  
IPGSSTTSTGPCRTCMTTAQGTSMYPSCCCTKPTDGNCTCIPSSWAFG  
210 220 230 240 250  
KFLWEWASARFSWLSLLVPFVQWFGVLSPTVWLSVIWMMWYGPSLXSIL  
260  
SPFLPR+PIFFCLWVYI+

**Figure 45**

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